GIFT
MAR 6 1916

VOL XIX
~~VOL. XXXVII~~ NO. 3

THE CALIFORNIA ECLECTIC MEDICAL JOURNAL

Incorporating
THE LOS ANGELES JOURNAL OF ECLECTIC MEDICINE
AND THE CALIFORNIA MEDICAL JOURNAL

ISSUED MONTHLY

MARCH, 1916

O. C. WELBOURN, A. M., M. D., Editor

DEVOTED TO THE
DEVELOPMENT AND WELFARE OF ECLECTIC MEDICINE ON THE PACIFIC COAST

SUBSCRIPTION PRICE, ONE DOLLAR PER YEAR

"ENTERED AS SECOND-CLASS MATTER JAN. 23, 1909, AT THE POST OFFICE AT LOS ANGELES, CALIFORNIA
UNDER ACT OF MARCH 3, 1879."

LIBRARY
OF THE
UNIVERSITY
OF
CALIF.

SILVOL

Powerful antiseptic, astringent and sedative.
Penetrates tissue and destroys bacteria.
Contains approximately 20 per cent. of silver.
Freely soluble in water.

Non-toxic, non-irritating.
Does not coagulate albumin.
Is not precipitated by proteids or alkalies.

For the treatment of all inflammations
of mucous membranes

—notably, acute and chronic gonorrhea; diseases of eye, ear, nose, throat, etc.—in any condition, in fact, in which the use of a silver salt is indicated.

Silvol is used in solutions of 1 to 50 per cent.

Powder: Bottles of one ounce.
Capsules (6-grain): Bottles of 50.
Contents of two capsules make one-fourth ounce of a 10-per-cent. solution.

NOTE.—We also supply Silvol Ointment (5 per cent.) for application to regions where the use of an aqueous antiseptic solution is not feasible. Small and large collapsible tubes with elongated nozzle.

WRITE FOR LITERATURE ON SILVOL.

Home Offices and Laboratories,
Detroit, Michigan.

PARKE, DAVIS & CO.

AN EFFICIENT ENDAMEBICIDE

IN

AMEBIC DYSENTERY AND PYORRHEA

ALCRESTA TABLETS OF IPECAC

LILLY

An Adsorption Compound of Ipecac Alkaloids with Lloyd's Reagent.

CAUSE NO NAUSEA

Alcresta Tablets of Ipecac are uncoated and disintegrate readily in the stomach, but do not release the alkaloids until the alkaline intestinal secretions are reached, hence they cause no gastric disturbance and obviate the necessity of hypodermatic injections.

Convenient, Economical—The Most Successful Treatment of Amebiasis by Internal Medication

IN AMEBIC DYSENTERY—Indicated in acute and chronic cases and meet the requirements of a prophylactic, being inexpensive; give good results quickly and are easily administered.

IN PYORRHEA—The usual local dental surgical treatment should be given in conjunction with their administration as an endamebicide.

Supplied through the drug trade in bottles of 40 and 500 tablets. Each tablet contains the alkaloids of 10 grains of Ipecac, U. S. P.

For further information address the Home Office

ELI LILLY & COMPANY

Home Office and Laboratories—INDIANAPOLIS, U. S. A.

NEW YORK CHICAGO ST. LOUIS KANSAS CITY NEW ORLEANS

In Affections Involving Deep-seated Structures Pneumonia, Pleurisy, Etc.

Directions: — Always heat in the original container by placing in hot water. Needless exposure to the air, impairs its osmotic properties—on which its therapeutic action largely depends.

A Uniform degree of Heat may be maintained for **24** hours or longer, by covering the throax with

Antiphlogistine
TRADE MARK

warm and thick —at the same time allow a liberal margin to overlap the area involved.

In this way, the aggravating symptoms may be almost immediately ameliorated; the cutaneous reflexes stimulated, causing **contraction** of the deep-seated and coincidently **dilation** of the superficial blood-vessels—flushing the peripheral capillaries. Thus the over-worked Heart is relieved from an excessive blood-pressure; congestion and pain also are relieved, and the temperature tends to decline as restoration to normal circulation ensues.

Physicians should WRITE "Antiphlogistine" to AVOID "substitutes"

"There's Only One Antiphlogistine."

MAIN OFFICE AND LABORATORIES

THE DENVER CHEMICAL MFG. CO., NEW YORK, U. S. A.

Branches:
LONDON, SYDNEY, BERLIN, PARIS, BUENOS AIRES, BARCELONA, MONTREAL

Specific Medicine Gelsemium Red

We consider the Crowning Pharmaceutical Success in the line of a Gelsemium preparation to be the elegant Specific Medicine, **Gelsemium Red.**

Characteristics. This preparation has the following characteristics. It is of a rich crimson color, and can not be mistaken for a common fluid. It has no unpleasant odor, being practically odorless. It does not change in quality from age, neither precipitating nor undergoing other alteration. In medicinal proportions it mixes without precipitation with water, glycerin, syrup, simple elixir, dilute alcohol, or other ordinary prescription diluents. It possesses the full therapeutic properties of fresh Gelsemium, without such objectionable products and by-products as may be found in ordinary preparations of the drug.

The dose is the same as that of the old style Specific Medicine Gelsemium, that stood for decades as a standard. However, its cleanness and clearness, its perfect dilution without precipitation, and its ready assimilation, makes Gelsemium Red exceptionally attractive, effective, and pleasing to the patient.

A Beautiful Experiment. To a half tumbler of clear water, add one fluid drachm (or less) of Specific Medicine Gelsemium Red. There will be no precipitate. Add now half a teaspoonful of baking soda. A beautiful, fluorescent, ultramarine blue color results.

Specific Medicine Gelsemium Red is made by means of the recently discovered **Lloyd's Reagent,** which enables us to exclude the inert coloring matters of the crude root. The preparation carries the full therapeutic qualities of the drug, (alkaloid and otherwise), and it is, in every wise, a **perfect pharmaceutical compound.**

Commendations. In a therapeutical sense, the reports of physicians who have used Gelsemium Red speak for themselves. These reports will be printed soon and mailed on request. They are of exceptional value, because of the great experience of their authors in the direction of the clinical use of Gelsemium in disease. Within a year thousands of physicians, in even stronger terms, will commend Gelsemium Red to their brother practitioners. The stocks of all jobbers are now being supplied with "Gelsemium Red," at the usual list price of Specific Medicine Gelsemium. (Send for descriptive pamphlet).

LLOYD BROTHERS,
Cincinnati, Ohio

December 1, 1914.

PICKING UP AFTER GRIP is no light matter, nor is it easily brought about.

The essential points are an easily digested blood and tissue maker and well chosen nourishment. For the first purpose

CORD. EXT. OL. MORRHUAE COMP.
(HAGEE)

is of distinctive value. It possesses every quality of the crude oil and yet is easily digested and assimilated.

May be continued over long periods without causing gastric distress.
PALATABLE — EASILY ASSIMILATED — FREE FROM GREASE AND THE TASTE OF FISH.

EACH FLUID OUNCE OF HAGEE'S CORDIAL OF THE EXTRACT OF COD LIVER OIL COMPOUND CONTAINS THE EXTRACT OBTAINABLE FROM ONE-THIRD FLUID OUNCE OF COD LIVER OIL (THE FATTY PORTION BEING ELIMINATED) 6 GRAINS CALCIUM HYPOPHOSPHITE, 3 GRAINS SODIUM HYPOPHOSPHITE, WITH GLYCERIN AND AROMATICS.

Supplied in sixteen ounce bottles only.
Dispensed by all Druggists.
Katharmon Chemical Co., St. Louis, Mo.

Katharmon is the ideal wet dressing for clean and infected wounds.
Katharmon Chemical Co., St. Louis, Mo.

KATHARMON represents in combination Hydrastis Canadensis, Thymus Vulgaris, Mentha Arvensis, Phytolacca Decandra, 10½ grains Acid Borosalicylic, 24 grains Sodium Pyroborate to each fluid ounce of Pure Distilled Extract of Witch Hazel.

California Eclectic Medical Journal

A monthly journal devoted to the development and welfare of Eclectic Medicine on the Pacific Coast and publishing the lists of questions asked by Board of Medical Examiners of the State of California ::

ONE DOLLAR PER YEAR

Address all communications to
CALIFORNIA ECLECTIC MEDICAL JOURNAL
819 Security Building :: :: :: LOS ANGELES, CALIFORNIA

WRITE FOR FREE SAMPLE COPIES

CONSERVATION OF NERVOUS ENERGY,
so essential in the management of Disorders of the Sexual Sphere, is well secured with

PASADYNE

(DANIEL'S CONCENTRATED TINCTURE OF PASSIFLORA INCARNATA.)

It should be borne in mind that PASADYNE (Daniel) is but the distinctive name for a superior product of passiflora—the ideal sedative.

NON-DEPRESSING, NON-HABITUATING.
It has no concern with the Harrison Act.

SAMPLES AND LITERATURE SUPPLIED TO PHYSICIANS PAYING THE EXPRESS CHARGES.

Laboratory of JOHN B. DANIEL, Inc., Atlanta, Georgia.

AN EASILY DIGESTED COD LIVER OIL PRODUCT

The therapeutic value of a cod liver oil preparation depends upon the ease with which it is digested and assimilated. If it distresses the stomach and is not assimilated, its value as a therapeutic agent is **nil**. Thus the need of choosing a cod liver oil product that is well received by the stomach and is quickly assimilated. In Cord. Ext. Ol. Morrhuae Comp. (Hagee) these several requirements are met. In this cordial the essential principles of the plain oil are preserved unchanged, its disagreeable feature (the grease) being eliminated. Cord. Ext. Ol. Morrhuae Comp. (Hagee) possesses every therapeutic virtue of the crude oil with the added advantage of palatability.

The Eclectic Medical College
OF CINCINNATI, OHIO

Located in one of America's greatest Medical Centers—The oldest (1845) and Leading Eclectic Medical College, Conducted on High Standards.

New modern building, well equipped laboratories, six whole-time salaried instructors.

Entrance—Completion of first grade, four years' high school course or its equivalent, plus one year of work of college grade in Physics, Chemistry, Biology and a modern language. All credentials must be approved by the Ohio State Medical Board.

A pre-medical course in Physics, Chemistry, Biology and a modern language is given by the Ohio Mechanics' Institute, Cincinnati, complying with the standards of State boards generally and the A. M. A.

The course in Medicine comprises four graded sessions of eight months each. Fees, $120 per year; Matriculation, $5.00 (payable once).

Juniors in co-operative courses in City Health Department and Tuberculosis Hospital (320 beds), and Seton Hospital Clinics; senior interneship in Seton Hospital. Seniors in clinical and bedside instruction in new Municipal Hospital, costing $4,000,000 (850 beds); also special lectures in Longview Insane Asylum.

Seventy-second year opens September 14, 1916. For bulletins and detailed information address

JOHN K. SCUDDER, M.D., Secretary
630 West Sixth Street ✣ CINCINNATI, OHIO

CHIONIA

A true hepatic stimulant that does not produce catharsis

PEACOCK'S BROMIDES

The BEST because the PUREST for prolonged Bromide Treatment

Remarkably serviceable in the treatment of Biliousness, Jaundice, Intestinal Indigestion, and the many conditions caused by hepatic torpor.

PEACOCK CHEMICAL CO.
St. Louis, Mo.

Hospital and Physicians' Supplies

Special prices given to physicians for hospital or office practice on Pharmaceuticals.

DEPOT FOR LLOYDS' SPECIFIC MEDICINES
at best discounts. Mail orders solicited.

DICKINSON DRUG CO.
Formerly Dean Drug Co.
Third and Main Los Angeles, Cal.

The Latest Eclectic Books

Specific Diagnosis and Specific Medication. By John William Fyfe, M.D. An entirely new work, based upon the writings of the late Prof. John M. Scudder, with extensive extracts from other Eclectic authors. 8vo, 792 pages, cloth, $5.00; law sheep, $6.00.

Physical Therapeutic Methods. By Otto Juettner, M.D. Third edition. 8vo, 650 pp. Fully illustrated. Cloth, $5.

Diseases of Children.. By W. N. Mundy, M.D. 8vo. Over 500 pages, fully illustrated. $3.00.

The Eclectic Practice of Medicine. By Rolla L. Thomas, M.D. 8vo, 1033 pages, fully illustrated in colors and black. Second edition. Cloth, $6.00; sheep, $7.00; postpaid.

Essentials of Medical Gynecology. By A. F. Stephens, M.D. 12mo, 428 pages, fully illustrated. Cloth, $3.00, postpaid.

Diseases of the Digestive Organs. By Owen A. Palmer, M.D. 8vo, 524 pages. Cloth, $3.00.

Treatment of Disease. By Finley Ellingwood, M.D. Two volumes. 8vo, 1100 pages. Cloth, $6.00 per set, postpaid.

Materia Medica and Therapeutics. By Finley Ellingwood, M.D. Sixth revised edition. 8vo, 811 pages. Cloth, $5.00.

Diseases of the Nose, Throat and Ear. By Kent O. Foltz, M.D. 12mo, 700 pages, fully illustrated. Cloth, $3.50, postpaid.

A Handy Reference Book to Specific Medication. By J. S. Niederkorn, M.D. 16mo, pocket size, 151 pages. Flexible leather, $1.00

Practical Surgery. By B. Roswell Hubbard, M.D. A new work—diagnostic, therapeutic and operative. 8vo, fully illustrated. 1300 pp. Cloth $6.

The California Eclectic Medical Journal
819 Security Bldg. Los Angeles, Cal.

SAL HEPATICA

The Ideal
Saline
Eliminant
In
Rheumatic
Conditions

Bristol-Myers Co.
New York

Laboratory Supplies, Test Solutions, Stains
Serums, Vaccines, Antitoxins, Etc.
COTTONS, GAUZES, BANDAGES, ADHESIVE PLASTERS

OUR PRESCRIPTION DEPARTMENT IS THE MOST COMPLETE IN THE CITY. WE DO NOT SELL ANY DRUGS OR MEDICINES WITHOUT A DOCTOR'S ORDER OR PRESCRIPTION

Exclusive Prescription Pharmacy
Los Angeles, Cal.

2nd Floor Merchants National Bank Building, Corner Sixth and Spring
F6372 Broadway 4742

9th Floor Brockman Building, Corner Seventh and Grand
F1974 Main 3293

ECTHOL
(BATTLE)

EXERTS A GENERAL EFFECT IN SYSTEMIC INFECTIONS WHICH ONLY THE MAN ACQUAINTED WITH ITS THERAPEUTIC POWERS CAN APPRECIATE. FOR THIS REASON **ECTHOL** IS OF DEFINITE VALUE IN **CARBUNCLE, ANTHRAX** AND LIKE CONDITIONS.

BATTLE & CO., Chemists' Corporation, St. Louis, Mo.

From a Loggia Overlooking the Prado, San Diego

SUBSCRIBE NOW

Please sign your name on this page, tear it out and mail to us at once.

Inclosed you will find $1.00 for subscription to The California Eclectic Medical Journal for one year to begin with your next issue.

Name .... Address ....

(Or) Enter my subscription to The California Eclectic Medical Journal "until forbidden" and I will pay your bill of $1.00 when rendered.

Name .... Address ....

K & O DOUCHE FOR THE APPLICATION OF GLYCO-THYMOLINE TO THE NASAL CAVITIES

GLYCO=
THYMOLINE
FOR
CATARRHAL
CONDITIONS

Nasal, Throat
Intestinal
Stomach, Rectal
and Utero=Vaginal

KRESS & OWEN COMPANY
361-363 PEARL ST. NEW YORK

THE ABDOMINAL BRAIN CAN'T THINK

but it does act to induce or aggravate

Obstipation---Stasis---Autotoxemia

which is more than "constipation".

Treatment to be efficient includes lubrication.

Effective lubrication requires INTEROL.

INTEROL has been hyper-refined, *i. e.*, it is safe, is of correct body and effective viscosity, is free from suggestion of flavor or odor (even when heated to 100° C.).

Therefore:

INTEROL SECURES RESULTS IN HANDS THAT KNOW HOW—AND WHEN—TO USE INTEROL

Obtainable of your druggist. Booklet on request.

VAN HORN and SAWTELL
15 and 17 East 40th Street
NEW YORK CITY

SALVITAE AND SALUGEN

THE CONSTITUTIONAL ELEMENT

Proper appreciation of the importance of the constitutional element in such dental affections as pyorrhea alveolaris and gingivitis is responsible for the wide-spread esteem and employment of

SALVITAE

Salvitae is of inestimable service in dental affections of constitutional origin, because it corrects those metabolic disturbances which lead to the deposition of salivary and serumal concretions. In consequence of its stimulating influence on the excretory channels, the elimination of the products of combustion is complete.

The remedial action of Salvitae in dental disorders of constitutional origin is, of course, augmented by the conjunctive employment of a local agent capable of effecting oral prophylaxis.

Destruction of pathogenic micro-organisms, prevention of fermentative processes, stimulation of peridental structures and maintenance of oral prophylaxis is best accomplished by the use of

SALUGEN

Salugen is an exceptionally powerful and absolutely harmless antiseptic, deodorant, detergent, disinfectant and prophylactic.

LITERATURE AND SAMPLES WILL BE SENT PREPAID, ON REQUEST.

AMERICAN APOTHECARIES COMPANY
ASTORIA. GREATER NEW YORK.

The California
Eclectic Medical Journal

Vol. ~~XXXVII~~ XIX MARCH, 1916 No. 3

Original Contributions

THE COMPOUND GUAIACOL INTRAVENOUS TREATMENT OF TUBERCULOSIS

A. P. Baird, M. D., Los Angeles, Cal.

(Read Before the Los Angeles Eclectic Medical Society)

Anything looking to the cure of the great white plague must of necessity profoundly interest the medical profession. And this is my excuse for presenting to you this short paper, having two objects in view; first to arouse a discussion and get your experiences, and secondly to promote an interest in the treatment.

This treatment was first brought to my attention at the national meeting in San Francisco, June of last year, which brought out a very large and animated discussion ranging in experience of a very diversified character all the way from the man who knew a whole lot, down to our old friend from Florida, who didn't know nothing and didn't know that.

However, the remarks made by Dr. Best of Indianapolis had a great deal of weight with me and I determined to try it when I found a suitable case, so I wrote to Dr. Best, who put me in communication with the Underwood Chemical Company of Indianapolis, who manufactures the product, and also an apparatus for the introduction of the compound designed by Harvey A. Moore, M. D., of Indianapolis. From them I obtained ℥V and the apparatus and began its use on a Mrs. A., a lady who came here like thousands of others in the last stages hoping for a speedy cure. It is but just to say that I treated her for four months before using the compound Guaiacol on her. A physical examination of the patient showed both lungs quite extensively affected, the right much the worse; the left knee joint was also tubercular, making locomotion quite difficult. The inner and outer ham strings were shrunk to mere strings, the result of disease; her appetite was poor and consequently quite anemic; very feeble, but still remained on her feet.

This was her condition when I first examined her and began treatment in the month of March, 1915, and by the 9th of June she was able to walk up to my house and remain till 10 A. M. and walk home without experiencing any inconvenience. On the 10th I started to San Francisco to learn about the subject of this paper, and when I returned found her so much worse that I almost, if not quite, despaired of even being able to get her back to where she was. The reason for this setback she and I attributed to a visit to her brothers at Seal Gardens, the climate there being so entirely different to that of the salubrious hills of the Annandale district that she got chilled, caught a heavy cold and lost flesh rapidly until she seemed nothing but skin and bones. In desperation I began the use of the remedy. First treatment I gave into the most prominent vein of the forearm by an improvised apparatus of my own. Three weeks later I had the full equipment from the Underwood Chemical Company and used that—not with the very best of success so far as the introduction is concerned, the needle being too small for the pressure of the apparatus. However, by the fifth week I could see and she could feel quite a change for the better. In thirty days more I gave her another, this time using a larger lumen needle, which was accomplished with more ease. She seemed to now be on the highway to recovery, was gaining her lost flesh rapidly, the knee trouble was altogether favorable, her appetite good, had no appreciable temperature, no chills, coughing was not at all troublesome and looked like a triumph for the Compound Guaiacol treatment and Eclectic Medication. When I gave her the fourth and last dose she suddenly developed a laryngitis, which I thought I could control in a few days; the days wore into weeks. At the end of two weeks I saw the case was lost unless some throat specialist could do what I had signally failed to do, so I took her to Dr. Barbrick, who made a careful examination and said nothing could be done. It was a tubercular laryngitis, of which I was already convinced. In two more weeks she was so far gone I saw it was no use giving any more of the compound, but just bent my energies towards amelioration of the dreadful symptoms of that terrible laryngitis, which made it next to impossible to swallow anything, and so on the 18th of November at 8 P. M. she fell asleep.

This is only one case and though failure must be stamped on it, I feel sure from the way she responded in the last stages that had it not been for the attack on the larynx a different verdict might have been obtained, and have brought before you tonight to stimulate you to use what might prove a boon to suffering humanity and save some if not many from an untimely grave.

For the benefit of those who have had no experience in the use of the remedy I will briefly state the technique.

After the proper asepsis being used, such as you would employ in any incision, thoroughly cleanse the chosen field of operation and sterilize your needle. Bandage the patient's arm above the elbow, so as to fill the veins below to make them stand out; select the largest and most superficial. Now attach one signal tube to outflow of apparatus and apply pressure with the bulb until the air has been expelled from the signal tube. Place a steady finger over opening of signal tube, fill flask tight with air and then close cut-off. Now insert needle in vein attached to second signal tube when the blood rushes back into signal tube. Remove the bandage and carefully disconnect the tube from the needle and attach the one connected to the flow of the apparatus and release the cut-off. Then compress your bulb from time to time to keep up an even pressure, producing a continuous and steady flow until the whole 8 ounces are injected, the needle then being removed and the little opening sealed with collodion.

The compound comes in ℥† vials, which is mixed with 7-oz. sterile salt solution and placed in the previously sterilized flask.

PROPHYLAXIS IN GYNECOLOGY

Dr. Ella Mansfield Caryl, Los Angeles

Gynecology (the Science of Diseases of Women) is usually divided into Medical and Surgical Gynecology. However, this paper will not attempt to deal with either of these phases of the subject, but will be more particularly concerned with the prophylactic or preventative part of Gynecological work.

The time is not far distant when the major part of the physician's work will be to use his superior knowledge in teaching people how to live to avoid the pitfalls of illness, thus obviating the danger of so many diseases to which womankind is heir. There are a great many reasons for the suffering due to pathological conditions of the female genital organs, and to prevent many of these one should begin with the very young child. The spine and abdominal walls should be manipulated daily to keep up the circulation and to strengthen the muscles of the back, abdomen and pelvis. As soon as the child is old enough it should be taught light, systematic exercises to take the place of the manipulations. A little later, when the child goes to school, its studies should be varied with manual labor and with exercises done to music in the open air, if possible. The music makes the exercises more enjoyable and the muscles respond to their fullest extent without breaking down so much tissue and filling the muscles with fatigue products, as would otherwise occur without music.

In 1906 Judge Ben Lindsey, the Father of the Juvenile Court, in addressing the Colorado State Conference of Charities and Corrections, said in part:

"I have just returned from a great convention in Chicago, where there were noted doctors and teachers, such as Dr. Butler of Columbia University, Jane Addams and many others who are wrestling with these great problems of delinquent children. The consensus of opinion seems to be that we need more physical and moral training in our schools, as well as manual training."

It was also stated at the same convention that "Chicago and other cities were using their schoolhouses for neighborhood social gatherings, and that they have expert teachers to whom they are paying high salaries to teach the children folk dances, and that Chicago had spent thousands of dollars on playgrounds, on which physical culture and dancing were being taught." In this way children work off their surplus energy. By exercising the body properly the muscles and ligaments are strengthened and the bony structures of the body are kept in proper anatomical relations. The blood is kept in general circulation, preventing congestion of the pelvis and genitalia, which is more or less responsible for getting children into bad habits, which later on not only impairs the general health, but makes fertile field for gynecological work.

No young lady should be permitted to wear corsets or bandages which cripple the muscles and interfere with circulation. A thoroughly exercised muscle should not only hold the framework of the body in proper position, but should protect the internal organs in such manner that Ptosis of the viscera would be prevented, and one organ would not interfere with the functioning of another by crowding upon it.

Prolapsus of the pelvic organs could very often be obviated if every woman would take a rest in the middle of the day by lying on her back and lifting her feet far above her head and making rotary motions alternately with each leg while in that position. This would strengthen the pelvic floor and put the pelvic organs back into position, counteracting the force of gravity.

This exercise should also be taken before retiring at night, to replace the organs so that uterine ligaments would be relieved of the tension to which they are naturally subjected while a woman is on her feet.

Children should be taught that the body is sacred and that every part is for use and not abuse. Young men should be made to feel that they must treat every young lady with the same respect that they would have shown to their own mother or sister, and that woman should be a helpmate and not a slave to the sterner sex. He should be made to realize that when he is dissipating he is not only injuring himself, but may be laying the foundation from which the girl whom he leads to the altar may become a helpless invalid, and his posterity be a curse to his home.

At puberty a young woman should be instructed in regard to the functioning of the female organs. It should be impressed upon her mind that the fate of the nation depends upon the young lady in the social world. She should be taught self-control and self-respect, and that the female reproductive organs are intended by the Creator for the purpose of propagating the race; that marriage should not be an institution of convenience, but should be based upon love and respect, and that a home built upon this foundation is the center of civilization.

When woman refuses to sell herself to a man in marriage and lives naturally she will attract her complement in the opposite sex, and the blending of the masculine with the feminine physically, mentally and psychically, each the complement of the other, will tend to keep a perfect equilibrium in the blood and nerve supply, and the gynecologist would find little to do in such a family, and their posterity would be a blessing to the world.

Of course, the above is a somewhat ideal way of dispensing with the gynecologist. The physician will often be called upon to adjust matters as they exist under present conditions. The economic problem will have to be solved before there are ideal conditions for women.

It is reported that no less a personage than Dr. Locke, an emininet divine of Los Angeles, in a recent sermon on ''Love and Marriage,'' said in part:

''During the reign of Charles II the Club House was the Londoner's home. . . . A little later women began to drift from home, numerous women's clubs were organized, and the care of the home and children were left to nurses and servants. Simultaneously there came also a movement of women in professional and business life. . . . While the women were doing the drudgery the savage men were spending their time smoking and grunting and adorning their persons. It is certain if women want to work and insist upon doing men's work, there are a lot of lazy, worthless scamps who will let them do it. The difference between civilization and savagery is largely a matter of difference and respect with which women are treated. . . . The home has lamentably suffered while women have been coquetting with public life until it has been facetiously, but truthfully, questioned whether there are enough mothers left to go round. . . . Woman's work is naturally spiritual, social, idealistic, altruistic and domestic. The fireside is her throne, the cradle her coat of arms.''

One can readily see from the above what Dr. Locke thought of the present situation in regard to women, although he may not have thought of the increase in gynecological work. He evidently was interested in woman as a mother.

The greater portion of the female population is naturally endowed to be mothers, and there are comparatively few who have the masculine brain and the female qualities so intimately blended that they can raise a family and yet have the force or fortitude to withstand public opinion, and grope with financial and social problems in the masculine fashion, which we observe in Charlotte Perkins Gillman, Emma Goldman, Mme. Curie and others. It is folly to suppose that because these women have made more or less success in their various undertakings that every other woman could do the same and preserve the integrity of the nervous system, upon which so much of the health and happiness of the human race depends.

As women are endowed by nature to be the instruments through which the race is propagated, it should be their business to give some intelligent thought to maternal interests, which includes keeping the pelvic organs in a healthy condition by not permitting themselves to become overworked. Men should solve the problems of economics and finance and relieve women of so grave an injustice as the support of a family.

A woman who has to earn her living outside of her own home is liable to anatomical lesions from occupational habits. The function of a joint is motion, and when through habit the spinal column is held in a certain position for an abnormal length of time there is often an alteration in the mobility of the joint. This condition results in morbid anatomy, ligaments are strained and hardened, and by abnormal pressure on the cord or nerve, naturally interferes with the blood and nerve supply to the organs supplied by that particular segment of the cord. In this way all kinds of menstrual diseases arise. Amenorrhea, Dysmenorrhea, or profuse menstruation, with their strain of ''reflexes,'' such as headache, lumbar pains, nervous and gastro-intestional troubles, etc., and if the lesion is not reduced it will naturally result in more serious pathological conditions of the pelvic organs.

The physician should look into the history of each individual case and give advice in regard to the change of occupation, or at least teach how best to care for herself under existing conditions.

In giving medicine it must be ascertained whether the Amenorrhea is the result of poor food and unhygienic surroundings. Macrotys and Pulsatilla will not take the place of food and sunshine in an anemic patient where there is no blood to send to the organs, but they will help alleviate the pain in a case where the nerve and blood supply are disturbed on account of a spinal lesion by relaxing the parts, but the spinal lesion must usually be corrected by manual manipulation before one can hope for a permanent cure.

It is very evident that a great many physicians are beginning to realize the need of manual therapy, as is evidenced by their willingness to have physical therapeutics incorporated in the curriculum of medical colleges.

There are many things in which the doctor can advise the patient to keep her from the many lamentable conditions in which an uneducated patient finds herself. Her general health should be looked after to find the cause of various aches and pains which arise in the other parts of the organism and are felt in the pelvic region.

Vulvitis, due to uncleanliness, is often the result of ignorance on the part of the patient. **Inattention to nature's call** may cause constipation, producing an overloaded rectum, which may result in a mechanical irritation to the uterus and its appendages.

The things that a physician could tell a patient which would preclude disease of the pelvic organs are too numerous to be mentioned in a short paper.

The obstetrician has a great field in applying his art correctly in carrying a woman through pregnancy and delivery without leaving her with some pelvic disturbances.

He should see to it that during gestation her clothes hang from the shoulders, that a lying-in woman does not lie in a sacro-lumbar position too long at a time, as under these conditions a heavy hypertrophic uterus would fall back against the rectum causing retro-displacement of the uterus and the stretched uterine ligaments would permit prolapsus of the organ when the woman gets on her feet. The abdominal bandage should not be so tight as to push the uterus back against the sacrum, thereby disposing to prolapsus of the organs, especially if the pelvic floor has been lacerated by neglect of the physician or other unavoidable causes.

The obstetrician should immediately repair perineal lacerations under aseptic conditions to preclude sepsis and uterine displacements which are more or less responsible for sub-involution with its long train of symptoms, local and general, evidenced by disturbed menstruation, leukorrhea, lumbo-sacral pains, etc., resulting in endometritis and hypertrophy.

The above conditions give the gynecologist quite a lengthy job, including curettage, the performance of a round ligament, ventral suspension, operation, etc., all of which would not have occurred with a little care on the part of the doctor.

The physician might, through his knowledge of the human body, teach that congestive endometritis is often due to sexual excesses, and a mother cannot afford to be harrassed by a long train of symptoms that follow over-indulgences.

When men and women free themselves from sex slavery and become engrossed in a purer, higher life, then will unborn generations not only be welcome, but the future posterity will be stronger physically, mentally and morally, and books on gynecology would read like ancient history and the gynecologist would seek more fertile fields in some other occupation..

IS THERE A REASON WHY?

Herbert T. Webster, M. D., Oakland, Cal.

Is there a "rationale" for specific medication? For forty years and more specific medicationists have lived in a sort of utopian atmosphere. For forty years and more specific medication has been practiced more or less successfully in an empirical way. It might be said that it has been practiced in an observational way, not in an investigative way. Consequently it possesses no well-founded philosophy. It offers no "raison d'etre." Its reason is the child's reason, "It's so because it's so." The time has come when we must begin to explain the reason for our method or fall behind in the therapeutic ranks. We must become an investigative school of therapeutists as well as an observational school.

In 1891 the writer briefly outlined the suggestion of cellula affinity as the foundation for such study. For years this idea attracted little attention and attracted little response; but these days even as dogmatic an authoriy as the Journal of the A. M. A. is beginning to take notice and sit up. The Introduction to Dynamical Therapeutics contains the gist of the writer's idea at the time mentioned. Reference to that article will bear him out in this matter. It is now a pleasure to know that so many, more competent to work the matter out scientifically, have come to the front.

We read and hear occasional reference to the "science" of medicine, but little real science has ever been demonstrated by members of the profession in therapeutics. The Homeopaths have made a stagger at it, but after proving their drugs and arriving at a suggestion as to where a remedy acts, they abandon the search and attempt to adapt the remedy to the picture presented by the proving. However, the real reason why of drug action is not among their lines of research. They recognize the affinity of drugs for tissues, but not the cellular affinity. Their doctrine admits of no progress, because it is founded on a proposition which does not admit of change. It is now more than a hundred years old, and in its very nature cannot advance. It must remain where Hahnemann left it, just as many seem to imagine specific medicine must stay where it was left by Professor Scudder.

The masterly paper read by Dr. Von Unruh at the last meeting of the National breaks into a new realm in therapeutics. He has shown by scientific research that echinacea increases leucocytosis. Thus the blood is improved in power of phagocytosis. Therefore the reason why this drug exercises such a power in infections. Yes, there is a reason why in at least one instance. Unless the writer is much mistaken there will yet be many reasons why, because we have coming men among us who are not contented to remain idle, nor bow to time-honored custom.

The article of Dr. J. F. Willard in the last October number of this Journal sets the idea forth in splendid style. This article ought to be read by every living Eclectic, because it points in the direction of scientific medicine; in a direction toward which we may be able to make of specific medication scientific medication. It is gratifying to know that California Eclectics are leading in this dircetion.

Dr. H. C. Smith is another California Eclectic who is decidedly alive. His articles on therapeutics breath a spirit of investigation on scientific lines. They suggest a new era for specific medication.

His ideas are in the direction of positiveness. He reaches out for a reason why our remedies act as they do, and strives to unearth the fundamental principle. If we are ever to be recognized as a scientific school we must unearth fundamentals. We must not only have a scattered knowledge of therapeutic action, but we must understand the reason why. Science is knowledge systematized.

The article of Dr. H. T. Cox in the last June number of this Journal on the "Action of Phytolacca," is another refreshing communication, and a praiseworthy study of one of our old specifics. Where, in all our literature, is there another exposition of phytolacca which compares with it in philosophical and scientific research?

For one, the writer is proud of the material the late years of the California Eclectic Medical College has turned out. If our organization holds out we shall hear more from this element as the years go by. These men are yet almost beginners, and a professional life is before them; and they are on the right track to do something big. Big, because unique, and because truly scientific.

THE CALIFORNIA ECLECTIC MEDICAL JOURNAL

The Official Organ of the Eclectic Medical Society of the State of California, the Southern California Eclectic Medical Association, the Los Angeles County Eclectic Medical Society and the Los Angeles Eclectic Policlinic.

O. C. WELBOURN, A.M., M.D.
Editor

D. MACLEAN, M.D.
Associate Editor

P. M. WELBOURN, A.B., M.D.
Assistant Editor

SPECIAL CONTRIBUTORS:

JOHN URI LLOYD, Phr. M., Cincinnati, Ohio.
J. W. FYFE, M. D., Saugatuck, Conn.
WM. P. BEST, M. D., Indianapolis, Ind.
FINLEY ELLINGWOOD, M. D., Chicago, Ill.
PITTS EDWIN HOWES, M. D., Boston, Mass.
HARVEY W. FELTER, M. D., Cincinnati, Ohio.
J. B. MITCHELL, M. D., San Francisco.
A. F. STEPHENS, M. D. St. Louis, Mo.

Contributions, Exchanges, Books for Review and all other communications should be addressed to THE CALIFORNIA ECLECTIC MEDICAL JOURNAL, 818 Security Building, Los Angeles, California. Original articles of interest to the profession are solicited. All rejected manuscripts will be returned to writers. No anonymous letters or discourteous communications will be printed. The editor is not responsible for the views of contributors.

INFECTION AND IMMUNITY

Many of us old practitioners feel that during our college life we were not well grounded in such subjects as hietology and bacteriology. Moreover, we are inclined to lay the blame upon some one, no matter who, so long as it is not ourselves. As a general rule a discussion of "what might have been" is quite without profit, and we have no intention of pursuing it further than to observe: that every man is the architect of his own life in a large measure, and that a lack of knowledge in his years of maturity of any particular subject usually is the result of his own choice or lack of choice. Assuming that many of our readers agree with the writer that an exhaustive study of the subjects first mentioned is unnecessary to the successful practice of medicine by those who were grounded in the old methods, and also assuming that they desire to know enough of the subject to grasp the words of wisdom as they fall from the lips of the later graduates, we have been looking for a concise article which would contain the necessary information. We believe the following article contains both of these essentials. Moreover, it is written by a man who, by reason of his knowledge, is recognized as the authority for the subject discussed. It is not only worth reading, but it should be preserved as a sort of text book for future use.

THE GENERAL PRINCIPLES AND MECHANISM OF INFECTION AND IMMUNITY

Victor C. Vaughan, M. D., Ann Arbor, Mich.

Introduction

Each and every living thing must feed, assimilate and eliminate. Living matter cannot continue in active life without performing these functions. There are certain resting forms in which these functions are, for the time, held in abeyance. Such are, eggs, spores, seeds and reproductive cells. These organisms possess only potential life; they are not in active life. A grain of corn or wheat, or any vegetable seed, contains a germ cell, a store of food and an enzyme. When placed in the ground, under suitable conditions of temperature and moisture, the enzyme begins to split up the stored food, the germ cells begin to utilize the split products and potential life awakens into active life. The revivified germ cell is now able to feed upon the constituents of the soil, the stalk grows and the grain or seed is reproduced. The spores of anthrax are only potentially alive and active life begins anew only in the presence of proper nutriment. The granules into which certain other bacteria are changed in the absence of food are further examples of resting forms. Ova, whether those of lower or higher animals, after stimulation by the spermatic cells, and under proper conditions, begin to develop into active life. In all cases life in one form or another is potentially at least, continuous.

No thing in active life remains in a condition of equilibrium. It absorbs, assimilates and eliminates. Metabolism is a life function and there can be no active life without it. Indeed, it is metabolism, active and latent, that distinguishes between living and dead matter. When matter becomes endowed with this function, it is no longer dead, but is alive. No thing in active life can be conceived of as existing alone. It must have food or die.

The morphological unit of life is the cell, although the physiological unit is the molecule or the group of molecules essential to the cell. All living things are essentially proteins. The cell may contain carbohydrates, fats and extractives, but the functions of life reside in its protein molecules. Each kind of life must consist of its own specific proteins and these are as many kinds of proteins as there are kinds of cells. It follows that proteins are specific. Those of the colon bacillus are not identical with those of the typhoid and differ more widely still from those of the tubercle bacillus. Relationship between varieties and species depend upon similarity in the chemical constitution of the molecules. The essential proteins of wheat and barley are not identical, but are more closely related in chemical structure than are those of barley and those of pumpkin seed.

All cells, so long as they are in active life, must feed. Otherwise, they cannot grow and multiply. This is equally true of cells, which have an individual existence and constitute unicellular forms of life, and of those which have a communal life and exist in the organs of multicellular beings, such as man. A living cell can feed only on that with which it comes in contact. Some of the cells of man's body, such as the leucocytes, can go in quest of food, while others are fixed and must depend upon what is brought to them.

Each cell feeds by means of its enzymes which split up the pabulum into blocks which can be fitted into its molecular structures. Each kind of cell must have its own specific ferment or ferments and there are as many kinds of ferments or enzymes as there are kinds of cells. There are enzymes which split up carbohydrates, known as diastases, and those which split up fats, known as lipases, but in our studies of infection and immunity, we are especially concerned with those that split up proteins, known as proteases or proteolytic enzymes or ferments. These enzymes are specific in two senses; first they are products of specific cells and second they can act only upon protein of certain chemical structures. It must be evident that a cell can feed only upon that material which is digestable by its enzymes. This is true of single cells and of multiple cells. Horn contains proteins and other nitrogenous substances, but man cannot live upon it because the enzymes of his alimentary canal cannot digest it. Only that which its enzymes can properly prepare for assimilation is food for the organism, whether it be unicellular or multicellular. With this understanding of the conditions under which cells grow and multiply we are ready to study some of the phenomena of infection. In doing this we will confine ourselves to bacteria.

Bacteria

There are some widely prevalent views concerning bacteria which, in the writer's opinion, are quite erroneous. It is generally stated that bacteria are low forms of plant life. This belief is founded upon an early observation that they are not readily soluble in dilute acids or alkalis. Is this enough to justify their classification as plants? Hair, skin and horn are not readily soluble in dilute acid or alkali and still they can hardly be called plants. Plant cells, generally at least, contain cellulose; bacteria do not. Plants, under normal conditions, take in carbonic acid and give off oxygen; bacteria absorb oxygen and give off carbonic acid. Many think that bacteria contain no nuclei, because there is no differentiation in staining, but it should be remembered that their staining properties show that they are practically wholly composed of nuclein. Some think that they are of simple chemical structure, because morphologically they are simple. The writer and his students have shown that chemically bacteria are quite as complicated and as highly developed as are the cells of man's body. Functionally they are highly developed. It is important to hold this in mind in studying the contests between bacterial and body cells, which so often end in the discomfiture of the latter.

Bacteria live and multiply through the activity of their enzymes. Their extracellular enzymes split the pabulum within their reach into proper blocks and their intracellular enzymes fit these blocks into the bacterial molecule. It must be plain that a bacterium, whose enzymes cannot act upon body proteins, cannot infect that animal. Such a bacterium may grow outside the animal body, feed upon dead material and elaborate a poison which may harm the animal. Such a bacterium is the bacillus botulinus. The peptonizing bacteria of milk so change the milk proteins that they are absorbed through the intestinal walls of infants and are further digested in the blood and tissues with the formation of poisons which cause the symptoms and lesions of cholera infantum and the other diarrhoeal diseases of infancy. During intrauterine life all the processes of digestion are parenteral, i. e., they do not occur in the intestine, but in the blood and tissues. In fancy the walls of the intestine are easily permeable and parenteral digestion continues, especially when the food proteins are altered by bacterial growth. In rare cases of summer diarrhoea, casein but little altered, has been detected in the blood by biological tests. Bacteria which cause disease by the elaboration of toxins or poisons in foods before they are taken into the body are known as toxigenic organisms. This term was proposed by the writer many years ago.

Body Cells

These live, like the bacterial cells, by means of their enzymes, which also are extra—and intracellular. The former cleave the pabulum properly and the latter fit the blocks into the molecules. The feeding cells are not confined to the leucocytes. All the living cells of the body, so long as they are alive, feed. They eat, assimilate and eliminate. In the higher animals, including man, the gross digestion for the whole is done in the alimentary canal. This is known as enteral digestion. The special preparation of food for the cells of the different organs, however, is done by their own specific enzymes and this process is known as parenteral digestion. Moreover, occasionally proteins in small amounts pass from the alimentary canal into the lymph and blood without complete digestion. Fine bits of organic matter are inhaled and find their way into the system without being subjected to any form of enteral digestion. Finally and of the greatest importance in the present study, living proteins, known as bacteria, find their way into the tissues. These not only have escaped enteral digestion, but they are capable of growth and multiplication, and if their development in the body is prevented it must be through parenteral digestion. Whether they are engulfed by phagocytes or destroyed by the fluids it is in either case parenteral digestion. It must be evident that parenteral digestion is the big and deciding factor in most cases of infection. If it fails or if it is slow in procedure, the invading bacteria may multiply. If it proceeds promptly and efficiently the invaders which under natural conditions are few in number, are destroyed before they can multiply and the body is protected. Now, we have the great problem of infection and immunity fairly before us. It is a contest between bacterial and body cells and as we have seen, they are armed with similar weapons. The bacterial cells have their enzymes, poisons and toxins. The body cells have their enzymes, bactericidal and bacteriolytic agents, opsonins, and phagocytes. The phagocytes constitute the mobile army of the defense and the fixed cells elaborate destructive weapons. Which of these bears the brunt of the defense depends upon the armament of the invader.

Whether a given bacterium is pathogenic to a given animal or not depends essentially upon two things. First, can it feed upon the proteins of that animal body? If it cannot, it can do no harm. Second, can the cells of the body destroy the invading cells before they can multiply?

The Phenomena of Infection

It should be clearly understood that only a living thing can infect. It must not only be alive, but it must be able to multiply in the animal body. It is true that the injection of diphtheria or tetanus toxin into an animal may cause all the symptoms and lesions of disease, but this is an artificial procedure, and, besides, the toxin is the product of bacterial growth. In infectious disease it arises when foreign cells find their way into the body and multiply to the detriment of the body cells. Simply carrying virulent bacteria on the surface or in the cavities of the body does not constitute infection. It is not rare to find tubercle bacilli on the hands of those who care for others who are ill of this disease. According to Flugge, 70 per cent of those in houses where there is a case of epidemic meningitis carry the organisms. In a schoolroom in which a child has developed diphtheria, 30 per cent of all the children may have the diphtheria bacillus in their throats and are not infected. In order to develop infection, the bacterium must feed upon the body. Carriers of infection are of importance to the epidemiologist, but they are not necessarily infected. The bacterium must not only feed upon the animal tissue, but it must multiply. The essential difference between saprophytic and pathogenic bacteria is that the latter can multiply in the animal body while the former cannot. Saprophytic bacteria contain in their cellular substance just as much protein poison as the pathogenic organism do and it is easy to kill an animal by injecting a relatively large amount of them into the abdominal cavity, but this is not infection. A bacterium is not pathogenic to a given animal unless it can convert that animal's proteins into its own proteins.

Saprophytic bacteria are speedily digested by the enzymes in the blood and tissues of the body, and if they be injected in large amount the protein poison set free may be sufficient to quickly kill the animal. So great is the bacteriolytic action of the blood that even some pathogenic bacteria do not infect when injected directly and wholly into the blood current. That is true of the bacillus of symptomatic anthrax. A dose which infects when administered subcutaneously, fails when given intravenously. The cholera bacillus is harmless when introduced subcutaneously in doses which would infect by the intestine. In the first instance, it is speedily killed by the bactericidal constituents of the tissues; in the second it grows and multiplies in the intestine where it does not come in contact with the germicidal agents.

There are many conditions which influence the capability of bacterial growth in the animal body. A given bacterium may be pathogenic to one species of animal and without effect upon another. Some are active in mixed cultures, one bacterium being of assistance to another. Some grow in certain tissues of the body and not in others. The number of bacteria introduced into the animal is an important factor. One anthrax bacillus may kill a mouse and one tubercle bacillus may have a like effect upon a guinea-pig, but these are exceptions and whether an infection results or not depends, in most instances, in part upon the number and virulence of the organisms introduced.

While the blood has a marked bactericidal action on some bacteria, it forms an excellent culture medium for others. Virulent streptococci, plague and tubercle bacilli grow abundantly in the blood and kill more promptly the sooner they find their way into the circulation. Quite naturally, many bacteria grow most vigorously in injured and necrotic tissue on account of the lessened resistance. The readiness with which streptococci takes possession of areas already weakened by cancer, tuberculosis or syphilis is an illustration.

Incubation

The period of incubation of an infectious disease is the time interval between the introduction of the infecting agent and the first appearance of the symptoms of the disease. This varies greatly in different diseases and for the same diseases in different animals. With the same disease in the species there are also variations, but not so marked. For instance, one swallows typhoid bacilli, he does not develop fever the same day or the next, but, as a rule, between the sixth and tenth day. In some individuals the period of incubation for this disease may be longer. During this period there is no recognizable disturbance in the health of the individual, either subjectively or objectively. He considers himself well and attends to his usual duties, and yet this is an important and critical time in the development of the infection. The bacilli are growing and multiplying enormously in the man's body. They are converting body proteins into bacterial proteins, native into foreign proteins, and this goes on without the host being conscious of it. The ferments of the bacterial cells are fitting the body proteins into the cellular molecules of the bacteria. During the period of incubation the bacterial cells supply the enzymes, the body proteins constitute the substrate. the process is synthetical and constructive, no poison is set free and consequently no symptoms are manifest. It follows that the multiplication of the typhoid bacillus in man's body is not the direct cause of the symptoms of the disease. There is no evidence that growth and multiplication of the bacilli proceed at the expense of, or directly cause injury, to body cells. The bacilli feed upon the simple, soluble proteins of the body. A tubercle bacillus passes through the intestinal wall and leaves no lesion. A plague bacillus may penetrate the skin of an animal and make no visible alteration. The rate at which the virus multiplies during the period of incubation is an important factor in determining the final outcome. The more virulent the virus, the more rapidly does it multiply and this means a larger amount of body protein converted into bacterial protein. The phenomena of the period of incubation may be studied in a guinea-pig into the abdominal cavity of which a fatal dose of a virulent culture of the colon bacillus has been injected. In this experiment the incubation period is from eight to twelve hours, during which time the infected animal is in its behavior undistinguishable from its untreated fellows. However, if a drop of the abdominal fluid be taken out from hour to hour it will be seen that the bacilli are multiplying rapidly.

The Disease

In some cases the period of incubation passes abruptly, in others more gradually, into that of the active disease. Symptoms, both subjective and objective, develop and indicate a more or less marked departure from health. In some diseases there is a chill, which may vary greatly in severity and this is followed by fever. Evidently something has happened which disturbs physiological processes. The body cells have begun the contest against the invaders. Since the invasion began they have been preparing for the war and now the battle has begun. The bacilli have gained entrance and multiplied at the expense of the soluble proteins of the body because the animal cells were not at first prepared to combat them. Now they have developed bactericidal and bacteriolytic ferments and opsonins, possibly anti-toxins, and with these the further development of the bacteria is to be contested. When the infecting organism is a toxin producer, like the diphtheria or tetanus bacillus, it is not the cellular substance of the bacteria which directly and immediately endangers the body cells, so much as its soluble product, the toxin. In this case the contest is decided by the ability of the body cells to elaborate and make available enough anti-toxin to neutralize the bacterial toxin. In this case, the therapeutic administration of antitoxin has secured to curative medicine its great triumph, and success or failure depends upon the early administration of this magical cure in sufficient amount. The cells of the horse have been trained to produce this body and now it is poured into the blood current of the child to save its cells from destruction. The diphtheria bacilli contain a cellular poison, quite different from the toxin, but since the bacilli, except in small numbers, are not in the child's blood and tissues, but in its throat, the cellular poison may be neglected, for, as a rule, the few in the body do not contain enough poison to endanger the life of the child. Cure, then, depends upon the neutralization of the toxin before it has done irreparable harm.

When the infecting bacterium is one best combated by phagocytes the body cells supply opsonins which, in some way yet unknown, render the invaders less resistant to the leucocytes. In these cases the result depends upon the effectiveness with which both the fixed and motile cells of the body perform their functions. One of the important factors is the number as well as the virulence of the invading bacteria at the time when the contest begins. The greater the number, the more must the phagocytes devour, and feeding is a limited function. The more virulent they are, the less effective will be the opsonin. Rosenow has shown that the opsonins are not effective against the more virulent strains of streptococci and that infection with these generally proves fatal. It is worthy of note that bacteria devoured by phagocytes do not endanger the life of their host to the extent and in the same way as do those who suffer extracellular digestion. In the latter instance the cellular poison of the bacteria is set free and in its death it becomes most dangerous to its host.

By far the larger number of bacteria which infect man do not elaborate soluble toxins and for these we can have no antitoxin. Of the other pathogenic bacteria there are many which, in first infections at least, are not to any large extent devoured by phagocytes. The members of this large class, which cannot be met with antitoxins or by stimulated phagocytosis, must be dealt with by bactericidal and bacteriolytic enzymes. The potent poison which they contain is set free and exerts its deleterious effect which is determined by the rapidity with which the bacterial cells are disrupted. It must be evident that the development of powerful bacteriolytic enzymes at a time when the body is filled with bacteria would be most disastrous. The faster the invaders are destroyed the more danger is there to the host. This is well illustrated in typhoid fever, in which the bacillus produces no soluble toxin, and consequently there can be no antitoxin developed and in which there is no increase in the phagocytes. The greatest misfortune that happens in the progress of typhoid fever is the rapid devolpment of a powerful bacteriolytic enzyme and the speedy destruction of the invading bacteria in large numbers. This is true of plague and typhus as well as typhoid fever. It does not apply to diseases due to soluble toxins, such as diphtheria and tetanus, and probably not to those combatted exclusively by phagocytes, if there be such.

The assertion has been made that the infectious diseases have benefitted the race by the destruction of the unfit. This idea I have combatted most vigorously since our study of typhoid fever in the army in 1898. My colleagues and I found that out of 9481 soldiers who had previously been on the sick report and could not be regarded as possessing standard health, 648, or 6.8 per cent, contracted typhoid fever; whereas, out of 46,384 men who had no preceding illness, 7197, or 15.3 per cent, developed typhoid fever. More than 90 per cent of the men who developed typhoid had no preceding intestinal disorder. Under ordinary conditions the strong, busy man, especially the one whose activities demand wide excursions from his home, is more likely to become infected than the one whose sphere of action is more limited on account of infirmity. The reason for this is too obvious to need statement, and it follows that more men than women and more adults than children have typhoid fever. Moreover, the case mortality is greater among the strong, because death in this class of infectious diseases is often due to the rapidity with which the invading organism is broken up by the secretions of the body cells and the protein poison made effective. From this I have concluded that contagion, like war, destroys the very flower of the race. This view is sustained by the historians of the pestilences of former times.

Thycydides, in his description of the plague, at Athens, says: "Moreover, no constitution, whether in respect of strength or weakness, was found able to scope with it; nay, it swept away all alike, even those attended to with the most careful management." Procopius, in his account of the Justinian epidemic, states that youth was the most perilous season, and females were less susceptible than males. Cogan, in describing the outbreak of typhus at Oxford in 1577, writes: "The same kind of ague, raged in a manner over all England, and took away very many of the strongest sort, and in their lustiest age, and for the most part, men and not women and children, culling them out here and there, even as you would choose the best sheep of a flock." In his account of the plague of 1665 in London, Boghurst makes the following statement: "Of all the common hackney prostitutes of Luteners-lane, dog-yard, cross-lane, Baldwin-gardens, Hatton-gardens and other places, the common criers of oranges, oysters, fruits, etc., all the impudent drunken, drubbing ables and fellows and many others of the rouge route, there is but few missing—verifying the testimony of Diemerbroech that the plague left the rotten bodies and took the sound." Like testimony comes from an account of the plague at Moscow: "Drunkards and persons of feeble temperament were less subject to attack." Davidson observed that typhus fever was more frequent among the robust than the weak. He states that out of 429 cases the spare and unhealthy taken together made only about 17 per cent. He adds that the death rate among the poor was one in twenty-three, while among the well-to-do, it was one in four. The greater mortality of typhus among the higher classes has been noted by Barber and Cheyne and by Braken. Hurty nearly a century ago wrote: "A fever which consigns thousands to the grave, consigns tens of thousands to a worse fate —to hopeless poverty, for fever spares the children and cuts off the parents, leaving the wretched offspring to fill the future ranks of prostitution, mendicancy and crime." Creighton says:

"The best illustrations of the greater severity and fatality of typhus among the well-to-do come from Ireland in times of famine, and will be found in another chapter. But it may be said here, so that this point in the natural history of typhus may not be suspected of exaggeration, that the enormously greater fatality of typhus (of course, in a smaller number of cases) among the richer classes of Irish families, who had exposed themselves in the work of administration, of justice, or of charity, rests on the unimpeachable authority of such men as Graves, and on the concurrent evidence of many."

In the active stage of disease due to bacterial invasion of the body, the body cells supply the ferment, the bacterial cells constitute the substrate; the process is essentially destructive and analytical; complex cellular proteins are split into simple soluble bodies; the protein poison is set free, exerts its deleterious effects on the body cells and disturbs the health; the evidence of infection rises to the plane of clinical observation; the symptoms of the disease become manifest and the contest between bacterial and animal cells continue until one or the other holds possession.

It should not be understood that there is always a sharp line of demarcation between the period of incubation and the appearance of active disease. The bacterial growth may be extending into new parts of the body coincidentally with its destruction in other regions.

Fever

All bacteria are capable of inducing fever and this is a most constant accompaniment of infections. Fever is not directly due to the growth of bacteria in the body. It is not in evidence during the period of incubation when bacterial growth is most abundant. The early progress of tuberculosis is without fever, because at this time the number of bacilli in the body is few and most of these are living. It is not until the body becomes sensitized against the invading organism and begins to digest and destroy it that fever makes its appearance. The face may be covered with acne pustules, each of which contains streptococci, and still there is no elevation of temperature, because the cocci are not reached and digested by the bacteriolytic enzymes of the blood and lymph. The fever of infection results from the parenteral digestion of the bacterial proteins. Many years ago Gamaleia showed that fever follows the parenteral introduction of dead as well as living bacteria, either pathogenic or non-pathogenic. He concluded that fever is not a phenomenon of bacterial growth in the body. Furthermore, he found that the less virulent the organism, the higher and more persistent is the fever. A rabbit inoculated with the anthrax bacillus runs a fever for only a few hours, when the temperature falls and death results, while one inoculated with a highly attentuated anthrax culture (the second vaccine) shows fever for three days and then recovers. With a highly virulent culture there may be but little or no elevation of temperature and death comes within from five to seven hours after inoculation. The febrile process is not a result of the activity of the bacteria, but on the contrary is due to a reaction of the body against their presence and marks their destruction.

More recently it was shown by experiments in the writer's laboratory that fever can be induced in animals by the subcutaneous injection of proteins of diverse origin and structure, and that by modifying the size and frequency of the dose, the type of fever can be determined at will. By injecting egg-white into rabbits and by regulating the size and interval between doses, one may induce an intermittent, remittent, continued or acute fever. In the last mentioned the temperature can be carried to 107 degrees Farenheit with a fatal termination. Not only fever but its accompaniments also may be developed. In the continued fever, thus induced, there is the morning fall and the evening rise so constantly seen in typhoid. There is loss of appetite with lassitude, gradual emaciation, decreased urinary output and increased nitrogen elimination. Protein fever, which includes all infective and practically all clinical fevers, results from parenteral digestion. In this process the animals' cells supply the ferment and the foreign-protein may enter the body living or dead, with or without form. It may be detached and dead tissue from the animal's body, as after burns. It may be absorbed from some mucous surface, as in hay fever. It may be artificially introduced, as in serum disease. It is usually a living protein, as in the infectious diseases.

There are other causes of fever, but that of the infectious diseases results from the parenteral digestion of the infecting agent by specific secretions elaborated by the body cells. It is a phenomenon of the disposal of foreign and harmful material and it must be recognized as beneficient. However, there is a point above which it becomes a danger **per se.** In parenteral digestion the following sources of heat production must be evident: (1) The unaccustomed stimulation and consequent increased activity of the cells which supply the enzyme must be the source of no inconsiderable increase in heat production. (2) The cleavage of the foreign protein increases the heat liberation. (3) The reaction between the digestion products and the tissues leads to increased heat production. I regard the first and third as the important sources of the over-production of heat in the infectious diseases.

There are many conditions affecting the course of a fever and some of these may be mentioned. Some viruses sensitize more quickly and thoroughly than others. It is possible that the living bacterial cells, so long as they are living bacterial cells, do not sensitize. Some of the bacterial protein must pass into solution before cell penetration, which seems essential to thorough sensitization, can occur. A living colon bacillus of not more than twenty-four hours growth, when injected intra-abdominally in a guinea-pig, requires about ten hours to sensitize. With dead bacilli the time is reduced to half, while with old autolysed cultures, in which the sensitizing group is already in solution, the time is further shortened. Some pathogenic bacteria, like the tubercle bacillus, have been so long parasitic that they have learned to protect themselves by deposits of fats and waxes. Others form capsules which serve a like purpose. In this way they are probably protected to some extent against the destructive enzymes elaborated by the body cells. In all the infectious diseases the destruction of the invading organism is modified and delayed by the altered relation between ferments and substrate and the accumulation of fermentative products. The blood is a highly active digestive fluid with a finely adjusted balance between ferment and antiferment, which will soon be better understood and the solution of this problem will add another triumph to scientific medicine. When the ferment in the blood is suddenly activated immediate death results as is seen in anaphylactic shock. When properly regulated, this delicate mechanism protects against harmful bodies, both those introduced from without and those generated within.

—New York State Journal of Medicine.

LOS ANGELES ECLECTIC MEDICAL SOCIETY

The regular monthly meeting of the Los Angeles Eclectic Medical Society was held February 1, 1916, at the residence of the president, Dr. A. P. Baird, 1407 Mahantonga Way. The meeting was called to order by President Dr. Baird. The minutes of the previous meeting were read by the secretary and approved as read.

The application of T. C. Young, M. D., Glendale, was referred to the Board of Censors. The paper of the evening was read by President Dr. A. P. Baird, and was entitled "The Compound Guaiacol Intravenous Treatment of Tuberculosis." This proved very interesting and provoked a lively discussion. After delightful refreshments were served by Mrs. Baird the meeting adjourned to meet at the office of Secretary H. Ford Scudder, M. D., 1621 West Pico Street, March 7, 1916.

SOCIETY CALENDAR

National Eclectic Medical Association meets in Cedar Point, Ohio, June 1916. T. D. Adlerman, M. D., New York, president; W. P. Best, M. D., Indianapolis, Ind., secretary.

Eclectic Medical Society of the State of California meets in San Francisco June, 1916. Chas. Clark, M. D., San Francisco, president; H. F. Scudder, M. D., Los Angeles, secretary.

NEWS ITEMS

Dr. C. O. Hansen, Denver Colo., has been in California for a number of months and may decide to locate here.

Mrs. Bailey, wife of Dr. E. P. Bailey, has been very ill at the Westlake Hospital for a number of weeks, but is now convalescent.

Dr. L. H. Freedman has resigned from the Board of Health of Los Angeles and is now located at 600 W. 59th. Place.

Dr. O. C. Darling, Riverside, was a recent visitor in Los Angeles. Dr. Darling would like to sell his office and retire.

Dr. H. Scott-Turner, Pomona, has been in the city a number of times recently visiting her patients in the Westlake Hospital.

Dr. B. B. Bolton, El Monte, has been at the Westlake Hospital recently on professional business.

Dr. W. P. Ferguson, Santa Ana, was in the city recently and renewed his subscription to the Journal.

Orah K. Allen, M. D., graduate of the C. E. M. C., 1915, has opened an office at 517 Wright & Callender Bldg., Los Angeles. Residence, 467 Lincoln Ave., Pasadena.

Mrs. Porter, wife of Dr. Porter, Ft. Benton, Montana, who is spending the winter in Southern California, became very ill and unable to reach her home, underwent an operation at the Westlake Hospital during February. Although her condition has been critical, Dr. Barbrick expects that she will make a successful recovery.

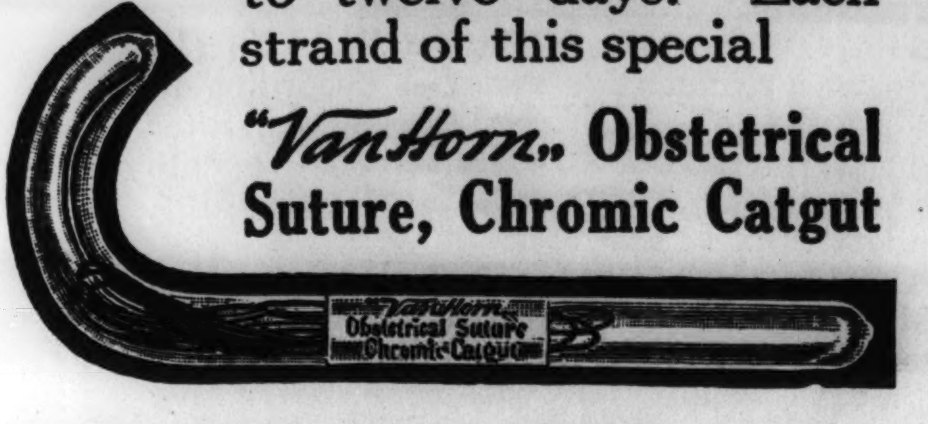
Dr. J. Fraser Barbrick, Consolidated Realty Building, has sold his practice to Dr. McClellan and will return to his former location in Boston.

FOR SALE: On account of poor health a physician living in small town in central California, prosperous community, wishes to sell his practice very reasonably. Write care of this office.

IN THAT CONFINEMENT TEAR

If you favor immediate repair, use our especially chromicized catgut prepared to hold seven to twelve days. Each strand of this special

"VanHorn" Obstetrical Suture, Chromic Catgut



is threaded on a suitable needle, ready for instant use. Indispensable for your surgical bag. One tube in each box. Price, 25 cents each; $3.00 per dozen tubes. No samples.

For Sale by Your Dealer,
or Sent Upon Receipt of Price

VAN HORN and SAWTELL

New York, U. S. A. 15-17 E. 40th Street AND London, England 31-33 High Holborn

"The Cleanest of Lubricants"

K-Y *Lubricating Jelly* (REG. U. S. PAT. OFF.)

"The Perfect Surgical Lubricant"

Absolutely sterile, antiseptic yet non-irritating to the most sensitive tissues, water-soluble, non-greasy and non-corrosive to instruments, "K-Y" does not stain the clothing or dressings.

Invaluable for lubricating *catheters, colon* and *rectal tubes, specula, sounds* and whenever aseptic or surgical lubrication is required.

Supplied in collapsible tubes.

Samples on request.

VAN HORN & SAWTELL

NEW YORK CITY 15-17 East 40th Street and **LONDON, ENGLAND** 31-33 High Holborn

"A Dependable Ally"

All too frequently when the natural defences of the body call for support and reinforcement, the reserve forces are found to be weak and inadequate. The aid of a good tonic becomes urgent, therefore, if the body is to win in the conflict with disease.

As a dependable ally to the physiologic forces of the body

Gray's Glycerine Tonic Comp.

has proven its value beyond all question during the twenty-five years it has been at the command of the medical profession.

It is simple yet appealing in its composition; the ingredients of "Gray's" are selected and combined with a care to quality and uniformity that assures therapeutic effects impossible to obtain with nondescript substitutes.

The success of "Gray's" is a success built upon efficiency and reliability—**the attainment of results;** in no other way could it have won the regard and confidence of the thousands of physicians to whom it is "the first thought" *whenever a tonic is needed.*

Samples On Request

The Purdue Frederick Co.
135 Christopher Street
New York City

1885 **1915**

Concerning Echinacea.

WHAT IS ECHINACEA? A plant, native to western North America.

WHAT IS THE THERAPEUTIC STANDING OF ECHINACEA? In the opinion of renowned **laboratory** experts who standardize remedies according to physiological processes, **Echinacea has no value.** (See Lloyd Brothers' Winter Bulletin, 1915, page 13.) In the opinion of physicians who use remedial agents **clinically**, and who employ it in disease treatment, **Echinacea is of exceeding value.** (See Lloyd Brothers' Winter Bulletin, pp. 11 and 12).

WHAT PHYSIOLOGICAL OR POISONOUS QUALITIES HAS ECHINACEA? It has never been known to kill a creature on the operating table, be it reptile, amphibian or other animal. It seems inactive, physiologically. No chemist has reported that he has obtained from it a toxic agent, or any substance destructive to health. Thirty-eight years' continuous use of Echinacea by physicians in active practice, without a single report of injury or death, proves that **it has no unkind action.**

WHO INTRODUCED ECHINACEA? It was first used by the American Indians, next by the early white settlers, then it became a constituent of a home remedy in Nebraska. At last it came to the attention of Dr. John King, who after special investigation, introduced it under its true name to the medical and pharmaceutical professions.

WHO WAS DR. JOHN KING? A physician of unusual talent and education, a believer in conservative medication, an author of international reputation, an American citizen who opposed wrong, however high the authority, and who supported the right, regardless of self-interest. A believer was he in kindness to the sick, a disbeliever in cruelty, to either sick or well, brute or human. The best versed physician of his day in the clinical uses of American drugs, Dr. John King was acknowledged to be. His greatest pride was to serve in the development of American vegetable remedies. His sincerest hope was to see America professionally independent of the rest of the world.

TRIBUTE OF DR. CHARLES RICE. This is what Dr. Charles Rice, Chairman for thirty years of the Committee on Revision of the Pharmacopeia of the United States, said of Dr. John King and his great work, the **American Dispensatory:** **"It constitutes a precious encyclopedia of medical American plants, and their therapeutical uses. It is a very useful work for reference. Its author is as fine a botanist as a judicial observer of therapeutical effects."** ***Translation from the French of Dr. Charles Rice's "Note sur Certains Medicaments Vegetaux Americains".***

WHEN DR. KING SPOKE. The voice of Dr. King in behalf of a remedy, was no idle word. In the maturity of his experience he used Echinacea in his own family, then in his practice, and when he had thoroughly tested the remedy, he gave to the profession his opinion of the drug.

A PREDICTION. Twenty years ago, it was said of Echinacea, **"Await the voice of time. If Echinacea stands the test of experience, it will live. If it is inadequate, it will die".** Has "Time" spoken?

THE REPLY. The most popular American drug today, (1915), as shown by the orders we have received from pharmacists for true pharmaceutical preparations of any American drug, (not compounds or mixtures named after the drug), for the exclusive use of physicians, is Echinacea.

ECHINACEA TODAY. Our Winter Bulletin, 1915, pages 11 to 13, presents reports from pharmacologists, conflicting with those from practicing physicians, concerning the therapeutic use of Echinacea. That the laboratory standardizers are correct (see page 13), in that Echinacea is not toxic and will not kill any creature, will be generally conceded. That practicing physicians are not capable of judging of the value of the remedies they use in their practice will be universally resisted.

WHAT OF THE FUTURE? Physiological investigators will probably never be able to produce death by the use of any ordinary Echinacea dose. Chemists will probably continue to find Echinacea elusive, so far as the discovery or elaboration of any toxic constituent is concerned. And American physicians who use Echinacea will probably continue to employ and commend it, as they have in the past.

LLOYD BROTHERS, CINCINNATI, OHIO.

October, 1915.

CACTINA PILLETS

A dependable cardiac tonic for

FUNCTIONAL DISORDERS OF THE HEART

PRUNOIDS

A physiologic laxative that does not gripe or cause after-constipation.

SENG

stimulates gastro-intestinal functions.

A remedy of proven efficiency for supporting, strengthening, and regulating the heart's action.

SULTAN DRUG CO., St. Louis, Mo.

Westlake Pharmacy

Corner of 7th and Alvarado Streets

Free Delivery

51890--52890 Wilshire 145

Are You a Member of the National?

If not, you ought to be a member of your State and National Eclectic Medical Association.

Do you know that the NATIONAL has a right to your influence and help in strengthening its organization?

Membership includes a subscription to the official journal, THE QUARTERLY, containing all papers, proceedings and discussions, editorials and current news. It puts you in fraternal touch with the best men in our school.

Send now for application blank and sample QUARTERLY to

Wm. N. Mundy, M. D., Editor - Forest, Ohio

SANMETTO FOR GENITO-URINARY DISEASES.

A Soothing Healer to Inflamed Conditions.
A Tonic-Stimulant to the Reproductive System.

Specially Valuable in Prostatic Troubles of Old Men—Irritable Bladder—
Enuresis—Cystitis—Urethritis—Pre-Senility.
SOOTHING—RELIEVING—RESTORING.

DOSE:—One Teaspoonful Four Times a Day. OD CHEM. CO., NEW YORK.

NEURILLA FOR NERVE DISORDERS **NEURILLA**
If Patient suffers from THE BLUES (Nerve Exhaustion),
Nervous Insomnia, Nervous Headache, Irritability or
General Nervousness, give four times a day one
teaspoonful **NEURILLA**
Prepared from Scutellaria Lateriflora,
Passiflora Incarnata and Aromatics.
OD CHEMICAL COMPANY, NEW YORK AND PARIS.

CLUB RATES

The various Eclectic publishers have decided to renew their special club offers to April 1, 1915, on a straight 10 per cent reduction, where two or more journals are ordered at one time. If you are not familiar with any of these journals, samples may be obtained on request.

	Price.	Club Rate.
American Med. Journal, 5255 Page Ave., St. Louis, Mo.	$1.00	$ .90
California Eclectic Med. Journal, 819 Security Bldg., Los Angeles	1.00	.90
Eclectic Medical Journal, 630 W. 6th., Cincinnati, Ohio	2.00	1.80
Eclectic Medical Review, 242 W. 73rd St., New York, N. Y.	1.00	.90
Ellingwood's Therapeutist, 32 N. State St., Chicago, Ill.	1.00	.90
National E. M. A. Quarterly, 630 W. 6th, Cincinnati, Ohio	1.00	.90
Nebraska Medical Outlook, Bethany, Nebr.	1.00	.90

You may subscribe to any or all of the above journals through this office, the only condition being that subscriptions are paid in advance and 10 per cent discount allowed on an order for two or more, including this Journal.

ERGOAPIOL (Smith)

For
AMENORRHEA
DYSMENORRHEA
MENORRHAGIA
METRORRHAGIA
ETC.

ERGOAPIOL (Smith) is supplied only in packages containing twenty capsules.

DOSE: One to two capsules three or four times a day.

SAMPLES and LITERATURE SENT ON REQUEST.

MARTIN H. SMITH COMPANY, New York, N.Y.,U.S.A.

We have data, prices and full information for your immediate convenience.

SHERMAN'S Bacterine VACCINE

BANNERMANN'S SOLUTION
for Anemic Conditions

PARAGON X-RAY PLATES

X-Ray Tubes, for Any Type Apparatus, Accessories

Laboratory Glassware

ELASTIC Hosiery, Supporters, to Order

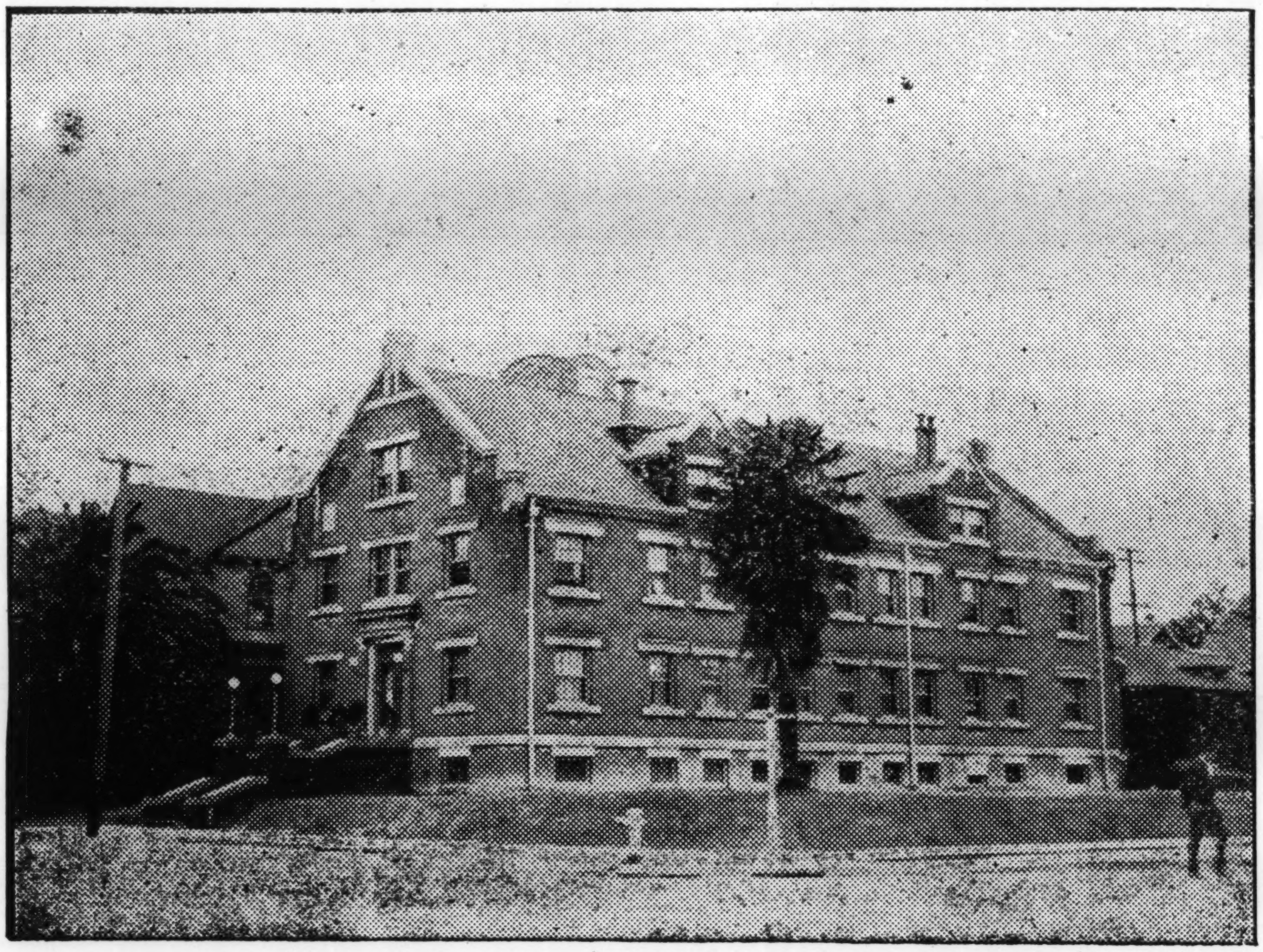
Pacific Surgical Mfg. Co.,

320 West Sixth Street

F-2495 **Main 2959**

THE

Westlake Hospital



Corner Orange and Alvarado Sts., Los Angeles, Calif.

This Hospital is located in the best residence section of Los Angeles. The building is new and absolutely **FIREPROOF**.

Operating rooms, equipment, furnishings and service are most complete and the best procurable. Mental and contagious diseases are not admitted.

None but **GRADUATE REGISTERED** nurses are in attendance.

Every courtesy is given physicians desiring to attend their own patients.

Table of Contents

ORIGINAL CONTRIBUTIONS:

PAGE

The Compound Guaiacol Intravenous Treatment of Tuberculosis........A. P. Baird, M.D. 45

Prophylaxis of Gynecology........E. M. Caryl, M.D. 47

Is There a Reason Why?........H. T. Webster, M.D. 52

EDITORIAL:

Infection and Immunity........ 54

SELECTIONS:

The General Principles and Mechanism of Infection and Immunity........ 55

SOCIETIES:

Los Angeles Eclectic Medical Society........ 65

NEWS ITEMS........ 66

Index to Advertisers

American Apothecaries Co........viii
Antiphlogistine, Denver Chem. Co...i
Battle & Co. vi
Bristol-Myers Co....................v
Dad Chemical Co.................xii
Dickinson Drug Co................xi
John B. Daniel.....................iv
Eclectic Books v
Eclectic Medical College...........iv
Eli Lilly & Company.........Cover.2
Exclusive Prescription Pharmacy . vi
Fellows Co. ....Cover 4
Katharmon Chemical Co. iii
Kress & Owen Co...............vii
Lloyd Bros. ii
Lloyd Bros xiii
National, Wm. N. Mundy, Editor....xi
Od Chemical Co....................xii
Peacock Chemical Co...............v
Pacific Surgical Mfg. Co............x
Parke, Davis & Co. ....Cover 1
Purdue Frederick Co...............ix
San Diego Exposition..............vi
Sultan Drug Co....................xi
Westlake Pharmacy. xi
Van Horn & Sawtell...........viii, ix
Westlake Hospital..................xiv

SYRUPUS HYPOPHOSPHITUM FELLOWS

One of the most efficient, most complete, and best all-round Tonics in the Materia Medica!

For four and a half decades its reputation has been constantly increasing!

Reject < **Cheap and Inefficient Substitutes**
Preparations "Just as Good"

THE FELLOWS
MEDICAL MANF'G. CO. LTD
26 CHRISTOPHER ST.
NEW YORK